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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,435	10/07/2005	Patrick Joseph Silcock	AJPARK30.001APC	8251
20995 7590 12/22/2008 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER LIU, SAMUEL W				
ART UNIT		PAPER NUMBER		
1656				
NOTIFICATION DATE		DELIVERY MODE		
12/22/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/531,435

**Applicant(s)**

SILCOCK ET AL.

**Examiner**

SAMUEL W. LIU

**Art Unit**

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-21, 23, 24, 27, 30, 31, 33, 34 and 37-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 19-21, 23, 24, 27, 30, 31, 33, 34 and 37-43 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-849)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/16/08  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Status of the claims*

Claims 19-21, 23-24, 27, 30-31, 33-34 and 37-43 are pending.

The amendment filed 9/2/08 which cancels claims 25-26, 28-29, 32, 35-36 and 44-51, and amendment of claims 19, 23-24, 30-31, 33-34, 37 and 39 has been entered. Claims 19-21, 23-24, 27, 30-31, 33-34 and 37-43 are examined in this Office action.

### *Withdrawal of the rejections*

- The objection to the specification is withdrawn in light of the amendment of the specification thereof.
- The objection to claims 45 and 50 is withdrawn in light of cancellation of the claims.
- The rejection under 35 USC, second paragraph, of claims 19-43 and 45-51 is withdrawn in light of cancellation of claims 22, 25-26, 28, 35, 45-48 and 50-51, and the amendment of claims 19, 23-24, 34 and 37.
- The rejections under 35 USC 102(b) by Reynolds E. C.: (i) (US Pa. No. 5981475) of claims 19-26, 31-34 and 37-43, and (ii) (US Pat. No. 5130123) of claims 19-26, 31-34 and 43 is withdrawn in light of the amendment to claim 19 (which now recites cross-linked partial hydrolysate of casein ...) and in light of cancellation of claims 25-26, and 32.

### **IDS**

The reference cited in the IDS filed 9/16/08 has been considered by Examiner.

### *New-Rejections - 35 USC § 112, first paragraph*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19-21, 23-24, 27, 30-31, 33-34 and 37-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; this is a new matter rejection. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Support in the specification as originally filed for the limitation of “about 3% to about 89% of the total number of peptide bond...”, and “total phosphoprotein in the preparation”, which as amended into the claims on 9/2/08 cannot be found. Applicant can either cancel the new matter or point out specification support for the phrase in the specification as originally filed. It is believed that applicants may have intended that the degree of hydrolysis is about 3% to about 8%.

### ***Conclusion***

No claims are allowed.

### ***Discussion of the art***

The prior art made of record and not currently relied upon in any rejections is considered pertinent to Applicants' disclosure:

[1] Lacroix et al. (*Am. J. Clin. Nutr.* (2006) 84, 1070-1079) teach that ratio of casein protein and whey proteins roughly 20:80 (see p.1078, left col. 2<sup>nd</sup> paragraph, lines 11-12).

[2] Lunden et al. (*J. Dairy Sci.* (1997) 80, 2996-3005) teach that casein/total protein (i.e., % of casein in total cow milk proteins) is about 73 (see Table 1, p. 2997, line 6).

[3] Garcia-Risco et al. (*J. Sci. Food Agric.* (1999) 79, 1171-1178) teach that during storage of cow milk an enzymatic proteolysis of casein protein occurs (see abstract and p. 1177, last paragraph). This suggest that said “storage” companies with the “proteolysis” equivalent to instant “partial hydrolysis” which is obtained by enzymatic hydrolysis (see instant claims 7 and 20, and paragraphs [0072] and [0094] , PG PUB).

[4] Moelker et al. (US Pet. No. 4654083) teach a stable, water soluble enzyme conjugate composition comprising casein hydrolysate and a test enzyme (see patent claims 1-7 and Example 2) which are crosslinked by cross-linking agent such as glutaraldehyde; wherein the hydrolysate is cross-linked with the enzyme (col. 2, 5<sup>th</sup> paragraph, line 1-2). Yet, this patent does not teach cross-link among casein polypeptides nor the degree of crosslinking thereof of between 10-250  $\mu$  mole cross linkers per gram of the total phosphoprotein, i.e., casein. Thus, it is not the prior art.

[5] Tait et al. (*J. Radioanaly. Nuclear Chem.* (1997) 226, 225-228) teach that milk contains strontium (see title and abstract).

[6] Villa et al. (*Commun. Dent. Oral Epidermiol.* (1999) 27,305-312) teach the UHT milk comprises fluoride ions (see p.307, left col., 3<sup>rd</sup> paragraph, line 3).

[7] An Overview of milk (see p.1, 3<sup>rd</sup> paragraph, “An overview of milk” (2008, updated) <http://animsci.agrenv.mcgill.ca/courses/450/topics/2.html>, pages 1-7).

[8] Panouille et al. (*J. Colloid Interface Sci.* (2005) 85-93) teach that casein proteins with bound minerals represent about 8% of he dry weight of milk (see p. 85, left col., line 7).

[9] Selbak et al. (US Pat. No. 5223286) teach that yogurt is a frozen confection (col. 4, lines 11-12).

[10] Holt et al. (*Colloids Surf.* (2003) 213, 275-284) teach that in casein micelles which is majority of milk of emulsion has about 7% by dry weight of calcium phosphate (see abstract).

[11] Lauber et al. (*Nahrung/Food* (2001, June) 45, 215-217) teach a UHT milk composition, a nutritional composition, comprising "casein oligomerization" formed by casein cross-linking during storage of UHT milk (see p. 216, left column, 5<sup>th</sup> paragraph, lines 1-7 and Fig. 1); wherein the cross-linked caseins are about 2.04 mmol per 100 g protein (p. 216, right column, first paragraph, line 5-8 and Table 1), i.e.,  $\sim 0.02$  mmol/g, or  $\sim 20$   $\mu\text{mol/g}$  protein (total of milk protein). Considering that % of casein in total cow milk proteins) is about 73 (see "Discussion of art" [2]), and that casein is approximately counted for "total phosphoproteins" of the milk proteins thereof, then, the above-mentioned " $20 \mu\text{mol/g}$  protein" becomes  $20 \times 0.73 = 14.6 \mu\text{mol/g}$  cross-linked casein of total phosphoproteins. During said storage, enzymatic "proteolysis" (equivalent to instant "partial hydrolysis") of casein protein takes place (see "Discussion of art" [3]). The milk inherently contains calcium and calcium phosphate ions (see "Discussion of art" [7], the Office action mailed 4/2/08). However, in view of that Lauber et al. do not teach the limitation (product by process): cross-linked partial hydrolysis is produced by the degree of partial hydrolysis about 3-89% of the total number of peptide bonds, Lauber et al. is not considered to be a 102 prior art (by inherency) applied to instant claim 19 and dependent claims therefrom.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Wei Liu whose telephone number is 571-272-0949. The examiner can normally be reached from 9:00 a.m. to 5:00 p.m. on weekdays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragton, can be reached on (571) 272-0931. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Wei Liu whose telephone number is 571-272-0949. The examiner can normally be reached from 9:00 a.m. to 5:00 p.m. on weekdays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber, can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703 308-4242 or 703 872-9306 (official) or 703 872-9307 (after final). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

/Samuel W Liu/  
Examiner, Art Unit 1656  
December 5, 2008

/JON P WEBER/  
Supervisory Patent Examiner, Art Unit 1657